I.   **FIELD OF INVENTION**

This invention is directed to an apparatus, a manufacture, and methods for making and using the same, in a field of digital electrical computer systems. More particularly, the present invention is directed to a digital electrical computer system involving a plurality of

5   participator computers linked by a network to at least one of a plurality of participator computers, the participator computers operating in conjunction with the controller computer to handle multiplexing operations for communications involving groups of some of the participator computers.

II.   **BACKGROUND OF THE INVENTION**

10   Multiplexing group communications among computers ranges from very simple to very complex communications systems. At a simple level, group communications among computers involve electronic mail sent in a one way transmission to all those in a group or subgroup using, say, a local area network. Arbitrating which computers receive electronic mail is a rather well understood undertaking.

15   On a more complex level, corporations may link remote offices to have a conference by computer. A central computer can control the multiplexing of what appears as an electronic equivalent to a discussion involving many individuals.

Even more complex is linking of computers to communicate in what has become known as a "chat room." Chat room communications can be ~~mere~~ text, ~~such as that offered~~

20   ~~locally on a file server, or can involve graphics and certain multimedia capability~~, as exemplified by such Internet service providers as America On Line. Multiplexing in multimedia is more complex for this electronic environment.

The ~~On the Internet, "chat room" communications analogous to America On Line~~ ~~have not been developed, at least in part because~~ Internet was structured for one-way

FIG. 15 is an illustration of a private message displayed on the private message window on the new channel screen of the present invention.

FIG. 16 is a further illustration of the private message on the private message window on new channel screen of the present invention.

5   FIG. 17 is an illustration of an attribute revocation on the new channel screen of the present invention.

FIG. 18 is a further illustration of the new channel screen of the present invention.

FIG. 19 is an illustration of the channel list window screen of the present
10   invention.

FIG. 20 is an illustration of the toggle posting option on a screen of the present invention.

FIG. 21 is an illustration of a moderated version of the new channel screen of the present invention.

15   FIG. 22 is an illustration of a communication on a moderation window screen of the present invention.

FIG. 23 is an illustration of the communication passed on to the moderated version of the new channel screen of the present invention.

FIG. 24 is an illustration of a communication, for sending a graphical multimedia
20   message, on to the moderated version of the new channel screen of the present invention

FIG. 25 is an illustration, showing the name of the URL, on a moderated version of the new channel screen of the present invention.

~~FIG. 25 is an illustration of a communication, for passing a URL (Uniform Resource Locator) to channel members on a moderator pull-down screen of the present~~

invention.

FIG. 26 is an illustration of data associated with the graphical multimedia message on a moderated version of the new channel screen of the present invention.

FIG. 27 is an illustration of a proprietary editor, suitable for a dialog to change

5   tokens, on a screen of the present invention.

FIG. 28 is an illustration of a text-based interface login/password screen of the present proprietary invention.

FIG. 29 is an illustration of a text-based interface group screen of the present invention.

10   FIG. 30 is another illustration of a text-based interface group screen of the present invention.

FIG. 31 is another illustration of a text-based interface group screen of the present invention.

FIG. 32 is an illustration of a text-based interface private message screen of the

15   present invention.

FIG. 33 is another illustration of a text-based interface private message screen of the present invention.

FIG. 34 is another illustration of a text-based interface group with moderator screen of the present invention.

20   **V.   DETAILED DESCRIPTION OF THE DRAWINGS**

In providing a detailed description of a preferred embodiment of the present invention, reference is made to an appendix hereto, including the following items.

Appendix Contents

25   ALLUSER C
          ALLUSER H

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participator computers 5. For a synchronous notification, a participator computer 5 must interrogate the system 1 for a message.

With regard to the arbitrating of the controller computer 3 is directed by the controller computer program 2 to use "identity tokens", which are pieces of information

5 associated with user identity. The pieces of information are stored in memory 44 in a control computer database, along with personal information about the user, such as the user's age. The control computer database serves as a repository of tokens for other programs to access, thereby affording information to otherwise independent computer systems. In the database, the storage of tokens can be by user, group, and content, and distribution controls can also be

10 placed on the user's tokens as well as the database.

Each token is used to control the ability of a user to gain access to other tokens in a token hierarchy arbitration process. The arbitration also includes controlling a user's ability to moderate communications involving a group or subgroup of the participator computers 5. Once in a group, temporary tokens are assigned for priority to moderate/submoderate groups

15 (a group is sometimes known as a channel in multiplexing terminology).

Accordingly, tokens are used by the controller computer 5 to control a user's group priority and moderation privileges, as well as controlling who joins the group, who leaves the group, and the visibility of members in the group. Visibility refers to whether a user is allowed to know another user is in the chat group.

20 Tokens are also used to permit a user's control of identity, and in priority contests between 2 users, for example, a challenge as to whether a first user can see a second user.

Censorship, which broadly encompasses control of what is said in a group, is also arbitrated by means of the tokens. Censorship can control of access to system 1 by

Channel window for all members to see (at FIG. 23).

DMARKS now wishes to send a graphical multimedia message. This implementation sends graphical multimedia images by allowing a channel member to specify an Internet URL of a graphical multimedia resource to be presented to the group members. In this example,

5   DMARKS wishes to send the URL ~~www.ais.net~~ (corresponding to the World Wide Web home page of American Information Systems, Inc.) to the channel members. DMARKS enters the URL into the response window, and selects "Send URL" from the Moderator pull-down menu (at FIG. 24).

The controller computer 5 now passes the URL to the channel members. This

10   participator software 4 performs two actions in response to the graphical multimedia display request. The first is to put the name of the URL onto the transcript of the group's channel, so that it can be read by group members. The second response is to have the participator software show the data associated with the graphical multimedia message in a human interpretable way (at FIG. 25). To do this, the participator software 6 either uses built in rules to

15   decide how the graphical multimedia data is to be presented, or locates another program suitable to present the data. In this case, the software 6 is utilizing Netscape NavigatorÔ, a program for displaying graphical multimedia documents specified by a URL (at FIG. 26). Inside the Navigator window, the graphical multimedia content, the home page of AIS, is shown.

Finally, DMARKS wishes to manually modify the attribute tokens associated with

20   the user (at FIG. 27). The user invokes the Property Editor dialog, which allows the user to view and change the tokens associated with a user. A property of a given user is determined by the Identifier and Property names. An old value of the property is shown, and a token value can be changed in the "New Value" field. With this property editor, a user with sufficient permissions (tokens) can change any of the tokens or security parameters of any user, or a